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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/680,518	10/07/2003	Louis Gerber	BOV1-36182	5030

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EXAMINER	
GUZMAN, APRIL S	

ART UNIT	PAPER NUMBER
2618	

MAIL DATE	DELIVERY MODE
04/28/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/680,518	GERBER ET AL.	
	Examiner	Art Unit	
	APRIL S. GUZMAN	2618	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *07 March 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-11* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-11* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *21 May 2007* is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *06/21/04*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 03/07/2008 has been entered.

Response to Amendment

The Examiner acknowledges the receipt of the Applicant's amendment filed on 03/07/2008. Claims 1 and 10 are amended. Claim 11 is added. **Claims 1-11** are therefore currently pending in the present application.

Response to Arguments

Applicant's arguments with respect to claims 1-11 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Orten (WO 2003/056875 A1)** in view of **Anderson (U.S. Patent # 5,721,783)**, and further in view of **Tom (U.S. Patent # 6,690,947)**.

Consider **claim 1**, Orten teaches wireless microphone (read as microphone 1) comprising a microphone element for receiving audio signals from sound sources, a radio transmitter (read as radio unit 14 wherein the radio unit 14 then has the capability both of transmission and reception) for transmitting radio signals, and an antenna operatively connected to the radio transmitter (read as antenna 15) (Figure 4, Figure 5, page 5 lines 29-33, and page 6 lines 1-21),

wherein the wireless microphone comprises at least one coupling element (read as contact pins 17) for detachably fixing a module (read as base module 9) to the wireless microphone, said coupling element comprising electrical contacts (read as contact pins 17) for electrically connecting the module to the wireless microphone when the module is fixed to the wireless microphone by means of said coupling element (Figure 4, Figure 5, page 5 lines 17-21, page 5 lines 29-33, and page 6 lines 1-21).

However, Orten fails to teach carrying audio signals to a hearing aid and one of various interchangeable functional modules and wherein the interchangeable functional modules are communication modules for providing wireless communications over a plurality of networks, each including a module antenna for transmitting and receiving wireless communications over a network, and wherein each communication module is adapted to communicate over a different network.

In the related art, Anderson teaches carrying audio signals to a hearing aid (read as the output of the signal enhancer 26 is connected to the input of the RPU FM transmitter 27, which is tuned to the earpiece headset 21 receiver frequency F2 wherein the RPU FM transmitter 27 may be a wireless microphone) (column 3 lines 52-67, column 4 lines 1-14, and column 4 lines 62-67).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teachings of Anderson into the teachings of Orten for the purpose of providing a remote processor unit that wirelessly receives signals from and transmits signals to the earpiece of a hearing aid and to provide a new and useful auditory aid for hearing

impaired persons by removing audio signal enhancement functions from the earpiece and placing them in the RPU.

However, Orten as modified by Anderson fail to teach one of various interchangeable functional modules and wherein the interchangeable functional modules are communication modules for providing wireless communications over a plurality of networks, each including a module antenna for transmitting and receiving wireless communications over a network, and wherein each communication module is adapted to communicate over a different network.

In the related art Tom teaches one of various interchangeable functional modules (read as one or more modular cartridges 14A and B) and wherein the interchangeable functional modules are communication modules for providing wireless communications over a plurality of networks (read as separate cartridges 14A and B may support the operation of different cellular network standards and radio frequencies around the world including AMPS, GSM or any other wireless system or protocol) (column 11 lines 25-32), each including a module antenna for transmitting and receiving wireless communications over a network (read as the cartridge may also include an antenna to support one or more wireless communication systems) (column 13 lines 8-12), and wherein each communication module is adapted to communicate over a different network (read as separate cartridges 14A and B may support the operation of different cellular network standards and radio frequencies around the world including AMPS, GSM or any other wireless system or protocol) (column 11 lines 25-32).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teachings of Tom into the teachings of Orten as modified by Anderson for the purpose of providing a wireless communication system with modular

electronic components selected for operation within multiple systems wherein the units may be configured for removable connection to a variety of cartridges to provide a versatile communication device and varying degrees of flexibility including the selection of a different features and compatible operation within different wireless systems.

Consider **claim 2, as applied to claim 1 above**, Orten as modified by Anderson and further modified by Tom further teach wherein the coupling element constitutes a bidirectional electrical interface between the wireless microphone and the interchangeable functional module fixed to the wireless microphone (Orten – page 6 lines 1-8 and lines 18-21).

Consider **claim 3, as applied to claim 1 above**, Orten as modified by Anderson and further modified by Tom further teach wherein the coupling element is designed to fix the interchangeable functional module to the wireless microphone by mating with a coupling element of the interchangeable functional module (Orten –page 6 lines 1-8).

Consider **claim 4, as applied to claim 1 above**, Orten as modified by Anderson and further modified by Tom further teach wherein electronic modules of the wireless microphone are connected to one or more of the electrical contacts for bidirectional exchange of electrical signals between said electronic modules and the interchangeable functional module fixed to the wireless microphone (Orten –page 6 lines 1-8).

Consider **claim 5, as applied to claim 1 above**, Orten as modified by Anderson and further modified by Tom further teach wherein the wireless microphone comprises an electronic control module (read as base module 9 which contains the processor equipment), said electronic control module being connected to one or more of the electrical contacts for exchanging

electrical control signals with the interchangeable functional module fixed to the wireless microphone (Orten – page 6 lines 1-21).

Consider **claim 6, as applied to claim 5 above**, Orten as modified by Anderson and further modified by Tom further teach wherein the wireless microphone comprises operating elements (read as circuitry devices), said operating elements being connected to the control module, and said control module being designed for transferring electrical control signals to the interchangeable functional module fixed to the wireless microphone in response to operation of said operating elements (Orten – page 6 lines 1-21).

Consider **claim 7, as applied to claim 1 above**, Orten as modified by Anderson and further modified by Tom further teach wherein the wireless microphone comprises an electronic audio processing module (read as processor equipment), said electronic audio processing module being connected to one or more of the electrical contacts for exchanging electrical audio signals with the interchangeable functional module fixed to the wireless microphone (Orten – page 6 lines 1-21).

Consider **claim 8, as applied to claim 1 above**, Orten as modified by Anderson and further modified by Tom further teach wherein the wireless microphone comprises an electronic audio processing module (read as processor equipment), said electronic audio processing module being connected to one or more of the electrical contacts for exchanging electrical audio signals with the interchangeable functional module fixed to the wireless microphone (Orten – page 6 lines 1-21).

Consider **claim 9, as applied to claim 1 above**, Orten as modified by Anderson and further modified by Tom further teach wherein the radio transmitter is connected to one or more

of the electrical contacts for exchanging electrical signals with the interchangeable functional module fixed to the wireless microphone (Orten – page 6 lines 1-8 and lines 18-21).

Consider **claim 10, as applied to claim 1 above**, Orten as modified by Anderson and further modified by Tom further teach wherein the wireless microphone comprises a power source module, said power source module being connected to one or more of the electrical contacts for supplying power to the interchangeable functional module fixed to the wireless microphone and/or for receiving power from the interchangeable functional module fixed to the wireless microphone (read as the service-specific microcontroller 114 may be positioned within the cartridge portion 116 and control substantial portion of the interaction between various subsystems such as controlling the battery) (Tom – Figure 11, column 26 lines 54-67, and column 27 – lines 1-6).

Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over **Orten (WO 2003/056875 A1)** in view of **Anderson (U.S. Patent # 5,721,783)**, and further in view of **Lee (U.S. Patent # 6,526,287)**.

Consider **claim 11**, Orten teaches a wireless microphone (read as microphone 1), a microphone element for receiving audio signals from sound sources, a radio transmitter (read as radio unit 14 wherein the radio unit 14 then has the capability both of transmission and reception) for transmitting radio signals, and an antenna operatively connected to the radio transmitter (read as antenna 15) (Figure 4, Figure 5, page 5 lines 29-33, and page 6 lines 1-21),

wherein the wireless microphone comprises a coupling element (read as contact pins 17) for detachably fixing a module (read as base module 9) to the wireless microphone, said coupling

element comprising electrical contacts (read as contact pins 17) for electrically connecting the module to the wireless microphone when the module is fixed to the wireless microphone by means of said coupling element (Figure 4, Figure 5, page 5 lines 17-21, page 5 lines 29-33, and page 6 lines 1-21).

However, Orten fails to teach carrying audio signals to a hearing aid, a rechargeable battery for powering the wireless microphone, wherein said interchangeable functional modules include: a receiver module for receiving wireless communications from a remote device that is remote from both the wireless microphone and the hearing aid; and a charging module for recharging the rechargeable battery, wherein the receiver module and the charging module can be interchangeable operatively connected to the wireless microphone through said coupling element.

In the related art, Anderson teaches carrying audio signals to a hearing aid (read as the output of the signal enhancer 26 is connected to the input of the RPU FM transmitter 27, which is tuned to the earpiece headset 21 receiver frequency F2 wherein the RPU FM transmitter 27 may be a wireless microphone) (column 3 lines 52-67, column 4 lines 1-14, and column 4 lines 62-67).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teachings of Anderson into the teachings of Orten for the purpose of providing a remote processor unit that wirelessly receives signals from and transmits signals to the earpiece of a hearing aid and to provide a new and useful auditory aid for hearing impaired persons by removing audio signal enhancement functions from the earpiece and placing them in the RPU.

However, Orten as modified by Anderson fail to teach a rechargeable battery for powering the wireless microphone, wherein said interchangeable functional modules include: a receiver module for receiving wireless communications from a remote device that is remote from both the wireless microphone and the hearing aid; and a charging module for recharging the rechargeable battery, wherein the receiver module and the charging module can be interchangeable operatively connected to the wireless microphone through said coupling element.

In the related art Lee teach a rechargeable battery (read as battery 11) for powering the wireless microphone, wherein said interchangeable functional modules include: a receiver module (read as electronic device is a Bluetooth) for receiving wireless communications from a remote device that is remote from both the wireless microphone and the hearing aid (column 1 lines 55-58, and column 4 lines 15-19); and a charging module (read as battery pack 10) for recharging the rechargeable battery, wherein the receiver module and the charging module can be interchangeable operatively connected to the wireless microphone through said coupling element (read as electronic device such as a Bluetooth is attached or detached conveniently from the battery pack 10 which is equipped with a connector 13) (column 1 liens 55-58, column 2 lines 1-4, column 2 lines 40-56, and column 3 lines 32-35).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teachings of Lee into the teachings of Orten as modified by Anderson for the purpose of providing an electronic device such as an MP3 player, a personal information communication device, a Bluetooth or a memory card that is attachable or detachable through connectors from a battery pack that is capable of repetitive recharging.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: see PTO-892 Notice of References Cited.

Any response to this Office Action should be **faxed to** (571) 273-8300 **or mailed to**:

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Hand-delivered responses should be brought to

Customer Service Window
Randolph Building
401 Dulany Street
Alexandria, VA 22314

Any inquiry concerning this communication or earlier communications from the examiner should be directed to April S. Guzman whose telephone number is 571-270-1101. The examiner can normally be reached on Monday - Thursday, 8:00 a.m. - 5:00 p.m., EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew Anderson can be reached on 571-272-4177. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

April S. Guzman
A.S.G/asg

/April S. Guzman/
Examiner, Art Unit 2618

/Matthew D. Anderson/

Supervisory Patent Examiner, Art Unit 2618